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Keeping the Natural State natural.

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Ryan Benefield, Deputy Director
Arkansas Dept. of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317 Little Rock, AR 72201

Re: ExxonMobil Pipeline Company's Pegasus Pipeline Oil Spill at Mayflower, AR March 29, 2013 – AGFC Comments on the ExxonMobil Environmental Services Company Downstream Areas Data Assessment Report

Dear Mr. Benefield:

In follow-up to recent communications between our respective agencies' staff members, I am providing the following comments from Arkansas Game and Fish Commission, prepared with assistance of our consultant, Industrial Economics, Inc., regarding ExxonMobil Environmental Services Company's Downstream Areas Data Assessment Report.

A preliminary review was conducted of the above-named report. The report is very comprehensive and provides detailed data collected during the fieldwork and conducted by the analytical laboratories. The data quality is high. However, we note that there are three areas where the report needs revision:

1. The evaluation of the polynuclear aromatic hydrocarbons (PAHs) in soils and sediments is not acceptable in that it analyzes only a subset of PAHs, thereby possibly substantially understating the potential for impacts asserted in ExxonMobil's report.

In the analysis of the PAH chemical results, we disagree with ExxonMobil's statement on page 5-4, which states:

While environmental assessments often initially focus on the 16 priority pollutant PAHs designated by USEPA, AGFC requested that a longer list of 43 non-alkylated and alkylated PAHs be evaluated during the development of the DARSP; therefore, separate summations using a longer list of PAH analytes are also included. Greater weight is placed on the sediment screen using the priority pollutant PAHs in the summations because the sums are compared to ESVs that are based on a subset of the priority pollutants or on a single PAH.

In fact, oil spill assessments should always include chemical analysis and evaluation of the alkylated PAHs because they are present in oils at much higher concentrations than the parent PAHs in the EPA Priority Pollutant PAHs (which were developed primarily for waste sites, not oil spill sites). The "long list" of 38 PAHs that they chose to use for their ecological screening

values (ESVs) includes only about half of the PAHs in the source oil. The oil spill assessment literature is clear on this -- all PAHs have the same mechanism of toxicity and should be included in risk assessments. Therefore, we have calculated toxic units (TUs) for all the sediment samples for which total organic carbon (TOC) was measured (only the surface sediment samples). In our analysis, the following surface sediments in Dawson Cove have TU values greater than 1, indicating that they pose some risks to benthic organisms: SED-DA-015, TU = 1.58; SED-DA-039, TU = 1.68; SED-DA-045, TU = 2.2; and SED-DA-046, TU = 1.01. In contrast, the ExxonMobil TU calculations are such that all sediment and soil samples have a TU less than 1. Therefore, we disagree with the statement on page 7-6 where they state:

Therefore, no further evaluation of PAHs in Dawson Cove sediment is necessary.

Also, the 0.5 - 1.0 foot samples at SED-DA-017, with a total PAH concentration of 26,580 µg/kg, might also have a TU >1; however, TOC was not measured so the TU cannot be accurately calculated. Assuming that the TOC is the same as the surface sample, it would have a TU = 1.93.

Therefore, we request that ExxonMobil re-analyze the data on PAHs in soils and sediments using the full list of PAHs in the source oil and revise their report and recommendations accordingly.

2. There is no fingerprinting assessment of the sources of the PAHs in the samples; that is, ExxonMobil makes no effort to document that the PAHs are from the spilled oil, even if the concentrations are below those thought to have ecological effects. We request that ExxonMobil conduct fingerprinting analyses to determine which soil and sediment samples are contaminated with the source oil.


3. The Sediment Profiling Imagery (SPI) method was not used for the Lake Conway Depositional Assessment. The Downstream Areas Remedial Sampling Plan says (p. 15) that:

The SPI can be used to measure and qualitatively evaluate a variety of physical, chemical, and biological parameters including: grain size, surface boundary roughness, Depth of apparent redox potential discontinuity, erosional or depositional features, subsurface methane gas pockets, and observation of benthic organisms. The images will provide additional information to assist in evaluating both the presence and extent of recent sediment deposition that may be associated with spill response activities.

The cores taken, instead, are of poor visual quality and it is difficult to compare the differences in the sediment layers between the sites near Dawson Cove and upstream areas. Further, no information was obtained regarding many of the parameters listed above, and in particular, bioturbation degree and depth. Therefore, it is recommended that ExxonMobil repeat the Sediment Deposition Evaluation using the SPI method.

We appreciate collaborating with ADEQ and its staff on this important matter. Please do not hesitate to contact me at (501) 223-6306 should you have questions or concerns regarding any of AGFC's comments.

Sincerely,


Ricky Chastain, Deputy Director
Arkansas Game and Fish Commission

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